

# CAPITAL ONE SECURITIES 13<sup>TH</sup> ANNUAL ENERGY CONFERENCE

Carrizo Oil & Gas December 4-6, 2018

## Forward Looking Statements / Note Regarding Reserves

This presentation contains statements concerning the Company's intentions, expectations, projections, assessments of risks, estimations, beliefs, plans or predictions for the future, objectives, goals, strategies, future events or performance and underlying assumptions and other statements that are not historical facts. These statements are "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. The forward-looking statements in this presentation include, but are not limited to, statements relating to the Company's business and financial outlook, cost and risk profile of oil and gas exploration and development activities, quality and risk profile of Company's assets, liquidity and the ability to finance exploration and development activities, including accessibility of borrowings under the Company's revolving credit facility, commodity price risk management activities and the impact of our average realized prices, growth strategies, ability to explore for and develop oil and gas resources successfully and economically, estimates and forecasts of the timing, number, profitability and other results of wells we expect to drill and other exploration activities, drilling inventory, downspacing, infill drilling and completion optimization results, estimates regarding timing and levels of production or reserves, estimated ultimate recovery, the Company's capital expenditure plan and allocation by area, cost reductions and savings, efficiency of capital, the price of oil and gas at which projects break-even, future market conditions in the oil and gas industry, ability to make, integrate and develop acquisitions and realize any expected benefits or effects of completed acquisitions, midstream arrangements and agreements, gas marketing strategy, lease terms, expected working or net revenue interests, the ability to adhere to our drilling schedule, acquisition of acreage, including number, timing and size of projects, planned evaluation of prospects, probability of prospec

You generally can identify forward-looking statements by the words "anticipate," "believe," budgeted," "continue," "could," "estimate," "forecast," "goal," "intend," "may," "objective," "plan," "potential," "predict," "projection," "possible," "scheduled," "guidance," "should," or other similar words. Such statements rely on assumptions and involve risks and uncertainties, many of which are beyond our control, including, but not limited to, those relating to a worldwide economic downturn, availability of financing, the Company's dependence on its exploratory drilling activities, the volatility of and changes in oil and gas prices, the need to replace reserves depleted by production, operating risks of oil and gas operations, the Company's dependence on key personnel, factors that affect the Company's ability to manage its growth and achieve its business strategy, results, delays and uncertainties that may be encountered in drilling, development or production, interpretations and impact of oil and gas reserve estimation and disclosure requirements, activities and approvals of our partners and parties with whom we have alliances, technological changes, capital requirements, the timing and amount of borrowing base determinations (including determinations by lenders) and availability under our revolving credit facility, evaluations of us by lenders under our revolving credit facility, other actions by lenders, the potential impact of government regulations, including current and proposed legislation and regulations related to hydraulic fracturing, oil and natural gas drilling, air emissions and climate change, regulatory determinations, litigation, competition, the uncertainty of reserve information and future net revenue estimates, acquisition risks, availability of equipment and crews, actions by midstream and other industry participants, weather, our ability to obtain permits and licenses, the results of audits and assessments, the failure to obtain certain bank and lease consents, the existence and resolution o

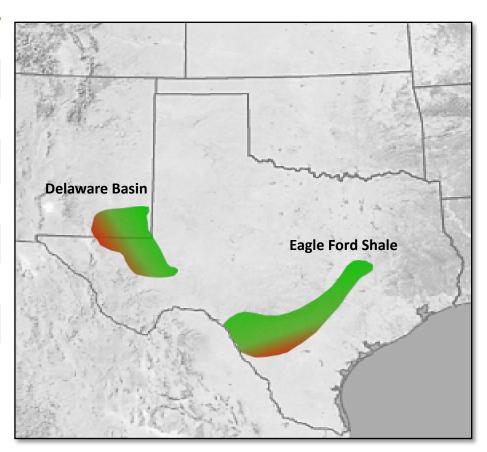
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## **Carrizo Overview**

Net Acreage	Net Undrilled
2018E Production Growth	~12%
2018E Capex (millions)	\$800 - \$825
YE 2017 Proved Reserves (MMBoe)	262
3Q18 Crude Oil Production (MBbls/d)	40.8
3Q18 Total Production (MBoe/d)	64.6
Net Debt/EBITDA <sup>1</sup>	2.0x
Enterprise Value	\$3.1 BN
Market Capitalization	\$1.6 BN
NASDAQ Symbol	CRZO

	Net Acreage Position	Net Undrilled Locations
Eagle Ford Shale	76,600	>700
Delaware Basin	46,000	>1,400
Total	122,600	>2,100



## **Strategic Goals**

#### Maximize Corporate Returns

- Allocate capital to highest-return assets
- Target double-digit ROCE

#### Generate Free Cash Flow

- Target free-cash-flow-positive development program
- Use free cash flow for leverage reduction, share buybacks, etc.

# Maintain Strong Financial Position

- Divestitures helped drive a material improvement in leverage
- Leverage currently below 2.0x

#### Deliver Double-digit Growth

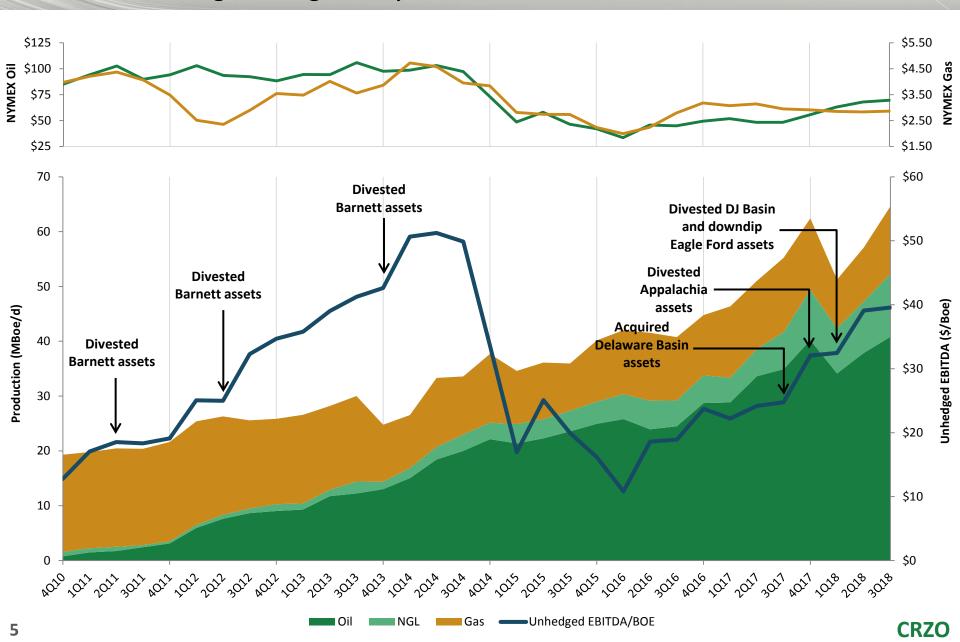
- Trailing 3-year production CAGR of 18%
- Target 10%-20% long-term production CAGR

#### Act as Good Corporate Citizen

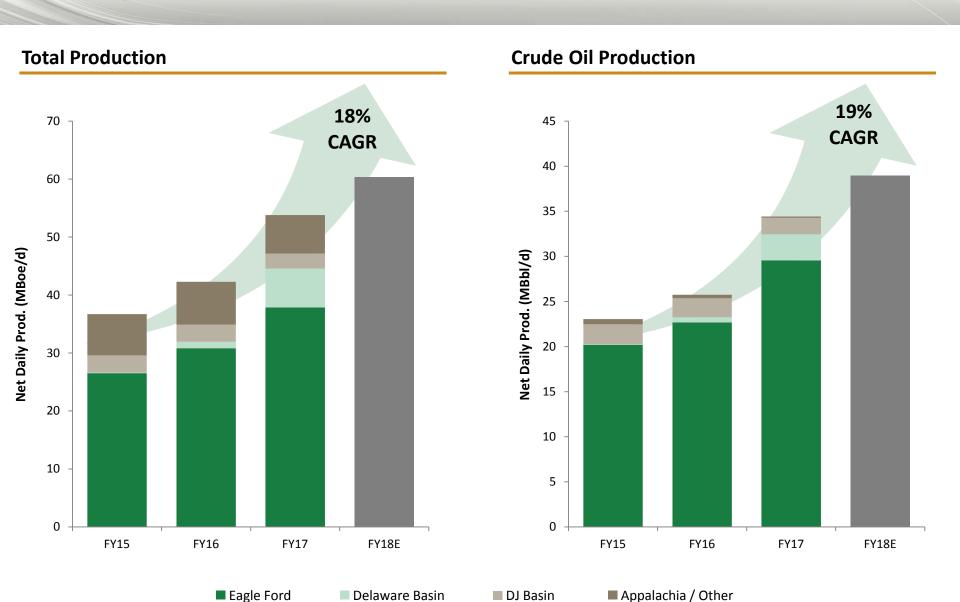
- Operate in an environmentally-sensitive manner
- Provide a safe and rewarding workplace environment

## **Successful Portfolio Transformation**

## Focused on High-margin Plays



## **Strong Track Record of Growth**

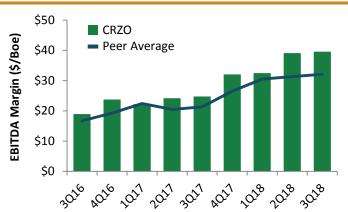


## **History of Top-tier Margins**

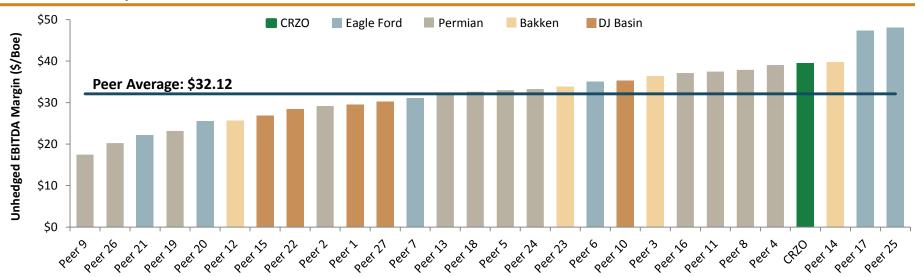
## Oil-focused Assets Drive Outperformance

- CRZO's focus on the core of plays it targets results in margins that consistently exceed peers
- Seaborne-based pricing in the Eagle Ford should drive a continued margin advantage
- Dual-basin portfolio allows CRZO to shift capital to its highest-margin play

#### Unhedged EBITDA Margin<sup>1</sup>



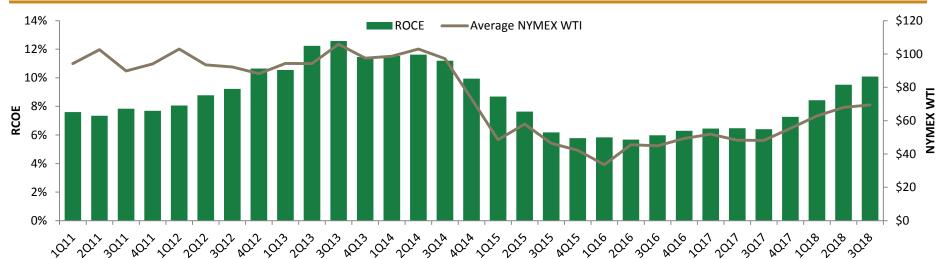
#### **3Q18 Peer Comparison**



### **Returns Matter**

## Targeting Double-digit ROCE

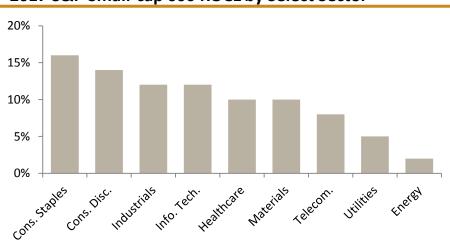
#### Historical ROCE<sup>1</sup>



#### 2017 ROCE vs. E&P Peers<sup>2</sup>

# 10% 8% 6% 4% 2% 0% CR2O Restrian Basin Eagle Ford Di Basin Gar San San Baixen

#### 2017 S&P Small-cap 600 ROCE by Select Sector

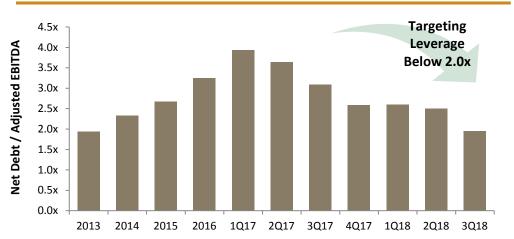


<sup>1</sup>ROCE is calculated as adjusted EBITDA less DD&A, exploration expense, and dry hole cost divided by average total assets less average current liabilities, adjusted for E&P impairments. <sup>2</sup>Permian peers: CDEV, CPE, CXO, FANG, HK, JAG, LPI, MTDR, PE, PXD, REN. Eagle Ford peers: EPE, PVAC, SBOW, SN, WRD. DJ Basin peers: HPR, BCEI, SRCI. Bakken peers: CLR, NOG, OAS, WLL. Source: Factset, Company reports.

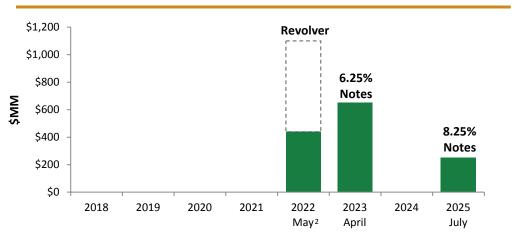
## **Balance Sheet Flexibility**

## Leverage Back Below 2x

#### Historical Leverage Metrics<sup>1</sup>



#### **Debt Maturities**



#### Revolving Credit Facility

- \$1.1 billion borrowing base commitment with interest rate of LIBOR + 1.25%-2.25%
- Consortium of 20 banks led by Wells Fargo
- Restrictive covenants
  - Total Net Debt < 4.0x Adj. EBITDA</p>

#### 6.25% Senior Unsecured Notes (due 2023)

- \$650 million outstanding
- Currently callable
- No liquidity or performance-based covenants

#### 8.25% Senior Unsecured Notes (due 2025)

- \$250 million outstanding
- Callable on July 15, 2020
- No liquidity or performance-based covenants

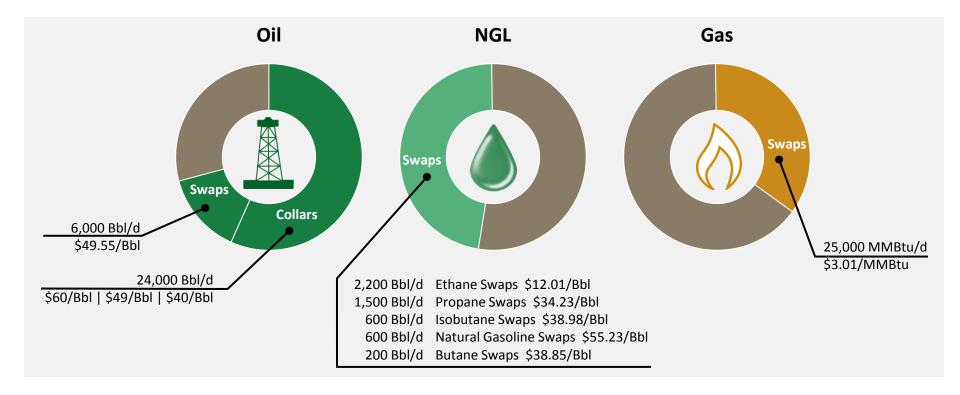
#### Corporate Credit Rating

B1 (Positive) / B+

<sup>&</sup>lt;sup>1</sup>As calculated by bank covenant.

## **4Q18 Hedging Program Overview**

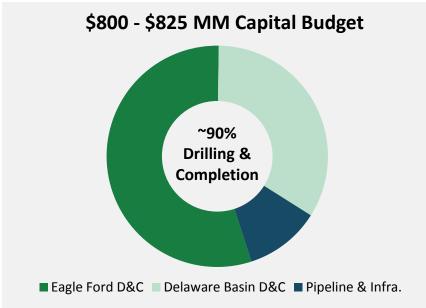
## Disciplined Strategy Protects Operating Margins



- Basis swaps provide additional protection against regional price movements
  - 6,000 Bbl/d locking in a \$0.10/Bbl Mid-Cush differential for 4Q18
  - 18,000 Bbl/d locking in a \$5.11/Bbl LLS-Cush premium for 4Q18

## **2018 Development Plan**

## Synergistic Development of High-quality Assets



Area	2018 Pro Forma Production Growth <sup>1</sup>	2018 Free Cash Flow <sup>2</sup> (Millions)
Delaware Basin: Longer-term Growth Engine	>100%	~(\$110)
Eagle Ford: High Return / FCF Positive	5-10%	>\$150

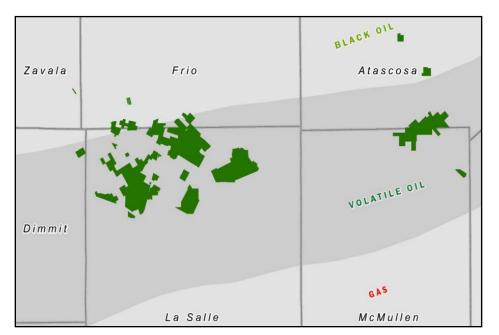
#### **4Q18 Program Highlights**

- Focus on high-return oily plays
- 4-rig development program in the Eagle Ford Shale
- 2-rig development program in the Delaware Basin
- Frac holiday planned for November/December
- Positions the Company for high-margin production growth in 2019

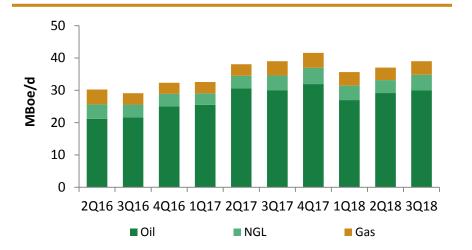
<sup>&</sup>lt;sup>1</sup>Production growth pro forma for A&D activity.

## **Eagle Ford Shale**

## High-return, Free-cash-flow-positive Core Position



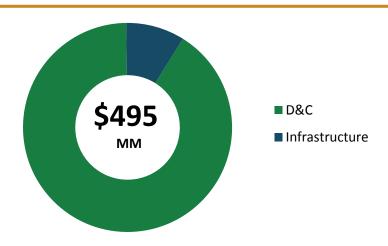
#### **Historical Production**



#### Overview

- Acreage almost entirely in the volatile oil window
- Crude oil receives premium seaborne-based pricing, contributing to strong returns
- Ample oil and gas takeaway capacity
- 2018 Program
  - Drill 95-100 gross / 90-95 net wells
  - Complete 85-90 gross / 75-80 net wells
  - Expected to generate pro-forma production growth and free cash flow

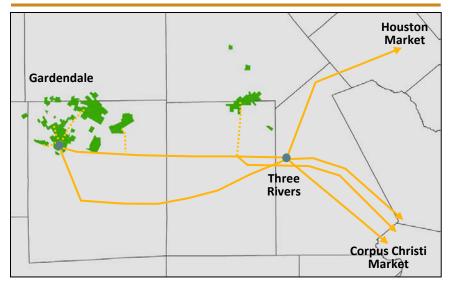
#### **2018 Capital Program**



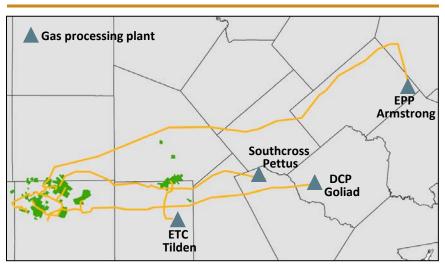
## **Eagle Ford Shale Midstream**

## **Ample Takeaway Capacity**

#### **Crude Oil**



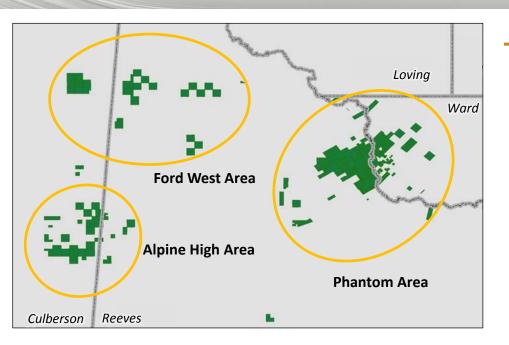
#### **Natural Gas**



#### **Significant Infrastructure and Optionality**

- Company-owned in-field and third-party gathering move ~70% of oil on pipelines; projects in-progress to increase to >90%
- Extensive oil and natural gas export infrastructure available across entire basin
- Significant unused capacity available for both oil and natural gas
- Close proximity to key markets minimizes transportation costs and maximizes margins
- No MVC's for either oil or natural gas
- Natural gas sold at plant tailgates and delivered to HSC markets or sold into HSC markets

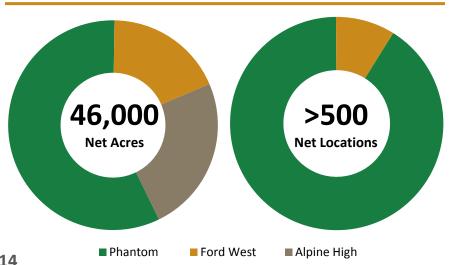
## High-return, Stacked-pay Potential



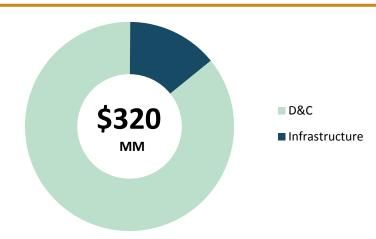
#### Overview

- Blocky acreage position that supports efficient long-lateral development
- Potential to provide decades of drilling inventory
- Infrastructure in place to support future growth
- 2018 Program
  - Drill 28-32 gross / 22-26 net wells
  - Complete 25 gross / 20 net wells
  - **Expected to generate pro forma production** growth of >100%

#### **Area Distribution**

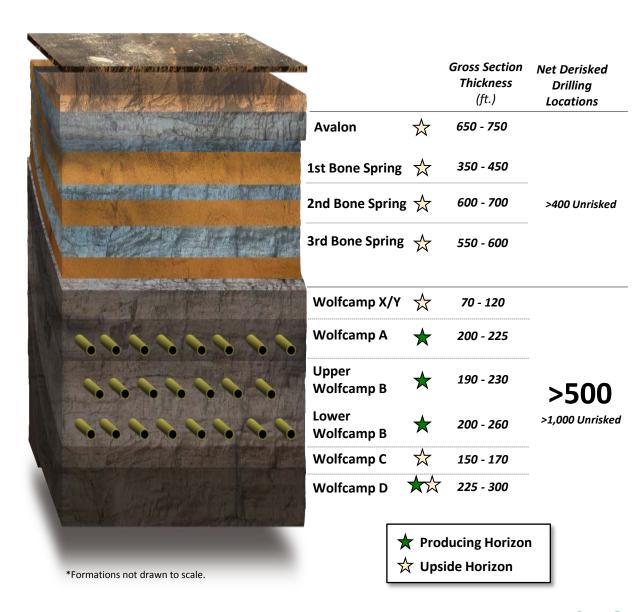


#### **2018 Capital Program**



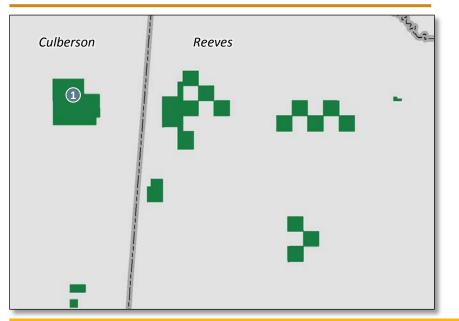
## High-quality Stacked Pay with Large Inventory Upside

- Up to 10 potential targets across a 3,800' section from the Avalon through the Wolfcamp D
- 4 of 6 target Wolfcamp horizons have been successfully tested with horizontal drilling
- Offset production has been established in the 3rd Bone Spring, Wolfcamp X/Y, and Wolfcamp C
- More than 400 net potential derisked locations identified across the Wolfcamp A and B zones with the most well control
- Significant inventory expansion potential from additional zones and future downspacing

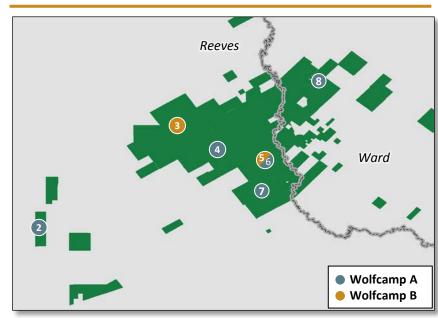


## Continued Strong Results from Wolfcamp A and B

#### **Ford West Area**



#### **Phantom Area**

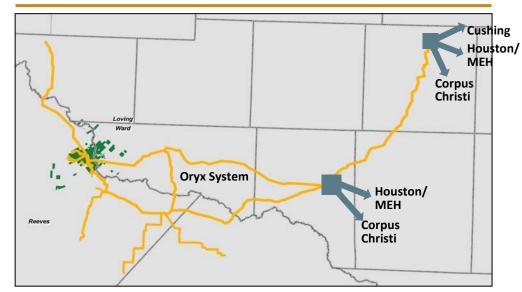


#	Well Name	Zone	Lateral Length (ft.)	30-Day Rate* (Boe/d)	60-Day Rate* (Boe/d)	90-Day Rate* (Boe/d)
1	Mustang State Unit 20H	WCA	6,150	1,433 (54% oil)	1,358 (53% oil)	1,277 (52% oil)
2	Sandhu State 14 12H	WCA	10,000	1,672 (40% oil)	1,575 (41% oil)	1,380 (43% oil)
3	Lovelace State Unit B912 11H	WCB	6,950	1,561 (47% oil)		
4	Davis 2728 Unit 10H	WCA	10,000	2,072 (53% oil)	2,018 (52% oil)	1,909 (52% oil)
5	Dorothy Unit 38 #1	WCB	8,640	1,595 (62% oil)	1,344 (62% oil)	1,287 (61% oil)
6	Dorothy Unit 38 11H	WCA	11,045	2,095 (56% oil)	1,952 (55% oil)	1,958 (56% oil)
7	Zeman-State A 4042 10H	WCA	7,654	2,201 (55% oil)	1,617 (55% oil)	1,652 (54% oil)
8	SRO 551 Alloc. A 100H	WCA	7,400	1,582 (45% oil)	1,454 (46% oil)	1,306 (46% oil)

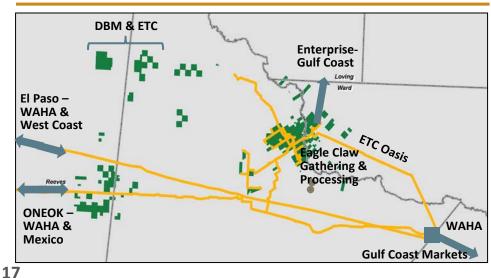
## **Delaware Basin Midstream**

## **Ensuring Certainty of Flow**

#### **Crude Oil**



#### **Natural Gas**



#### Significant Infrastructure and Optionality

#### Crude Oil

- Oryx system has 650 MBbl/d capacity to Crane / 200 MBbl/d capacity to Midland (expanding to 650 MBbl/d in 1Q19)
- Current 13.5 MBbl/d capacity on Oryx system expands to 25 MBbl/d in 1Q19
- First right of refusal on any unused or newly-added capacity on Oryx
- Recently executed firm sales contract with a large purchaser covering 100% of crude oil production through July 2020 with no minimum volume commitments

#### Natural Gas

- Gathering agreement with Eagle Claw; local system has 340 MMcf/d capacity
- Interconnects with ONEOK, El Paso, ETC, and Enterprise main lines allow access to Gulf Coast, West Coast, and Mexico
- Firm capacity of 35-45 MMcf/d on ONEOK through March 2020, 25 MMcf/d on El Paso through October 2019, and 30-50 MMcf/d on ONEOK from October 2019 through December 2020
- Ford West gas capacity on DBM and ETC

## **Investment Highlights**



## Premier Acreage Positions

~123,000 net acres across the Eagle Ford Shale and Delaware Basin, two of the highest-return plays in North America



Top Tier Operator

Track record of delivering EURs that rank among the best in our core areas as well as operating costs and margins that consistently outperform peers



Significant Growth Potential

Deep inventory of locations that generate strong returns allows for prudent, economical production growth



Solid Financial Position

Significant liquidity under the revolver combined with a strong hedge book should allow Carrizo to execute on its multi-year development plan



Experienced Management Team

Management team has extensive experience drilling horizontal shale wells, having drilled >1,000 wells since the early 2000's





## **Guidance Summary**

	Actual				Guid	ance
•	4Q 2017	1Q 2018	2Q 2018	3Q 2018	4Q 2018	FY 2018
Production Volumes:						
Total (Boe/d)	62,417	51,257	57,077	64,627	67,700 - 68,700	60,200 - 60,500
Crude Oil %	64%	67%	66%	63%	63%	64% - 65%
NGLs %	15%	16%	16%	18%	17%	17%
Natural Gas %	21%	17%	18%	19%	20%	18% - 19%
Unhedged Price Realizations:						
Crude Oil (% of NYMEX oil)	102.6%	100.9%	98.2%	97.5%	99.0% - 101.0%	N/A
NGLs (% of NYMEX oil)	42.2%	36.4%	36.7%	46.1%	38.0% - 40.0%	N/A
Natural Gas (% of NYMEX gas)	80.4%	98.3%	84.8%	77.3%	75.0% - 77.0%	N/A
Cash (Paid) Received for Derivative Settlements, net (\$MM)	\$0.6	(\$14.4)	(\$24.1)	(\$26.3)	(\$36.5) - (\$32.5)	N/A
Costs and Expenses:						
Lease Operating (\$/Boe)	\$6.81	\$8.51	\$6.77	\$6.90	\$7.00 - \$7.50	\$7.25 - \$7.40
Production Taxes (% of Total Revenues)	4.63%	4.69%	4.73%	4.78%	4.75% - 5.00%	4.75% - 4.85%
Ad Valorem Taxes (% of Total Revenue)	0.60%	0.88%	1.38%	0.85%	0.50% - 0.75%	0.85% - 0.95%
Cash G&A (\$MM)	\$10.7	\$22.7	\$9.7	\$10.0	\$10.6 - \$11.1	\$53.0 - \$53.5
DD&A (\$/Boe)	\$14.21	\$13.98	\$13.94	\$13.47	\$13.50 - \$14.50	\$13.70 - \$14.00
Interest Expense, net (\$MM)	\$18.5	\$15.5	\$15.6	\$15.4	\$14.8 - \$15.8	N/A

# **Hedge Position Detail** *Crude Oil*

		4Q 2018	1Q 2019	2Q 2019	3Q 2019	4Q 2019	FY 2020	FY 2021
Swaps	Daily Volume (Bbl/d)	6,000						
	Price (\$/Bbl)	\$49.55						
Three-way Collars	Daily Volume (Bbl/d)	24,000	27,000	27,000	27,000	27,000		
	Floor Price (\$/Bbl)	\$49.06	\$50.96	\$50.96	\$50.96	\$50.96		
	Ceiling Price (\$/Bbl)	\$60.14	\$73.40	\$73.40	\$73.40	\$73.40		
	Sub-floor Price (\$/Bbl)	\$39.38	\$41.67	\$41.67	\$41.67	\$41.67		
LLS-Cushing Basis Hedges	Daily Volume (Bbl/d)	18,000	6,000	6,000	6,000	6,000		
	Differential (\$/Bbl)	\$5.11	\$5.16	\$5.16	\$5.16	\$5.16		
Midland-Cushing Basis Hedges	Daily Volume (Bbl/d)	6,000	5,500	6,000	7,000	11,000	13,000	6,000
	Differential (\$/Bbl)	(\$0.10)	(\$5.24)	(\$5.38)	(\$5.56)	(\$3.84)	(\$1.27)	\$0.03

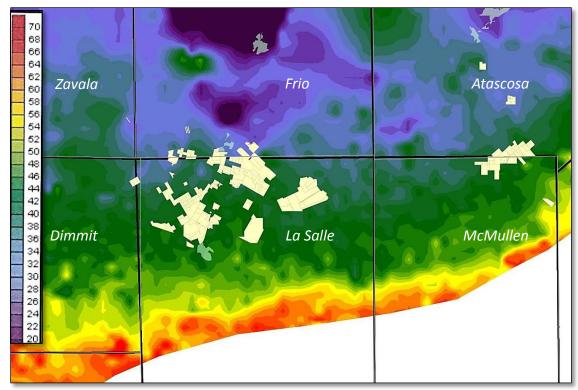
## **Hedge Position Detail**

## Natural Gas and Natural Gas Liquids

		4Q 2018
Natural Gas Swaps	Daily Volume (MMBtu/d)	25,000
	Price (\$/MMBtu)	\$3.01
Ethane Swaps	Daily Volume (Bbl/d)	2,200
	Price (\$/Bbl)	\$12.01
Propane Swaps	Daily Volume (Bbl/d)	1,500
	Price (\$/BbI)	\$34.23
Butane Swaps	Daily Volume (Bbl/d)	200
	Price (\$/Bbl)	\$38.85
Isobutane Swaps	Daily Volume (Bbl/d)	600
	Price (\$/Bbl)	\$38.98
Natural Gasoline Swaps	Daily Volume (Bbl/d)	600
	Price (\$/Bbl)	\$55.23

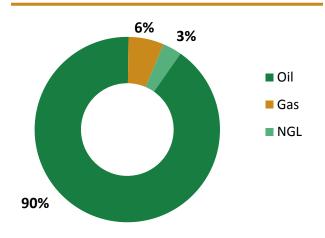
## **Eagle Ford Shale**

## **API** Gravity

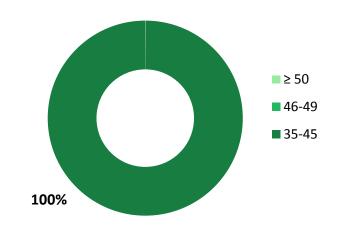


Source: DrillingInfo initial completion reports.

#### **3Q18 Net Sales Revenue by Product**



**3Q18 Volumes by API Gravity** 

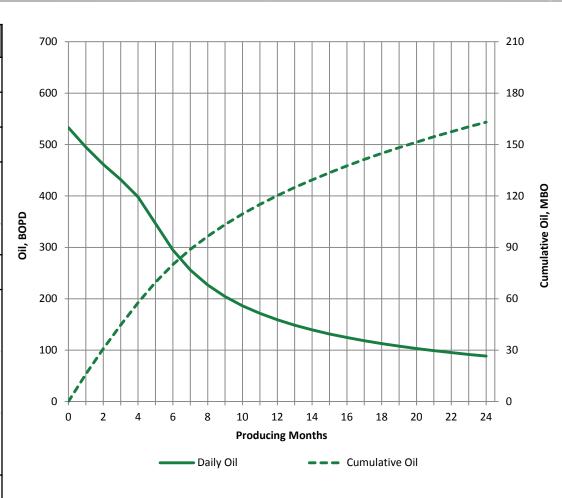


## **Eagle Ford Shale**

## Well Economics Summary

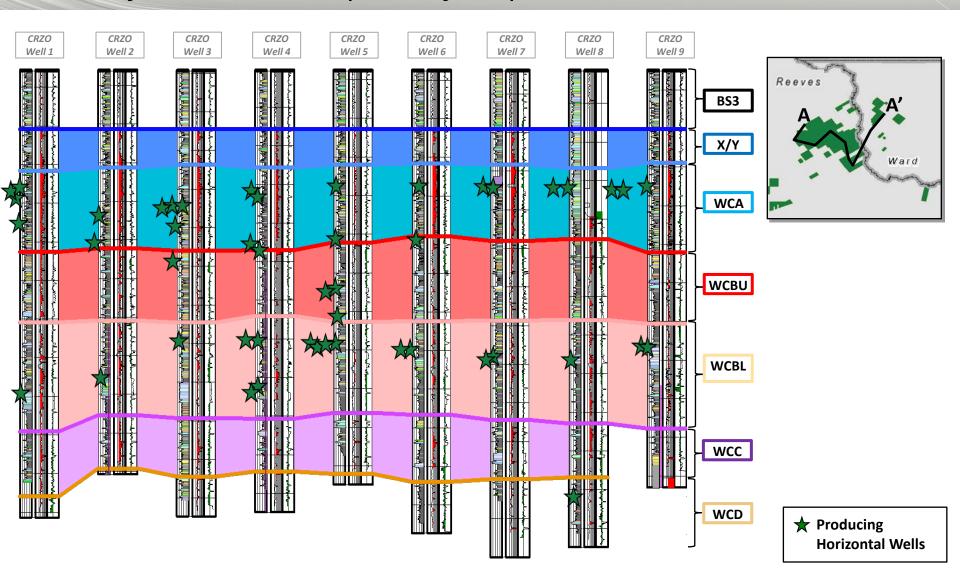
Typo Cury			Coro
Type Curve			Core
Total Well	l Cost		\$4.5 MM
Frac Stage	rac Stages		33
Lateral Le	ngth		6,600 ft.
		Gross	502 Mboe
EUR		Oil Only	382 Mbo
	***************************************	Net	376 Mboe
F&D Cost			\$11.90 / Boe
	¢co Oil	IRR	>100%
	\$60 Oil	NPV	\$5.0 MM
IRR &	¢EE OIL	IRR	79%
NPV <sup>(1)</sup>	\$55 Oil	NPV	\$4.1 MM
	\$50 Oil	IRR	58%
	, 350 OII	NPV	\$3.2 MM
NYMEX NPV10 Breakeven			\$32.00

Economics based on NYMEX prices and include ~\$1.00/Bbl deduct for oil, \$3.00/Mcf NYMEX gas price, NGL pricing 35% of NYMEX oil price.



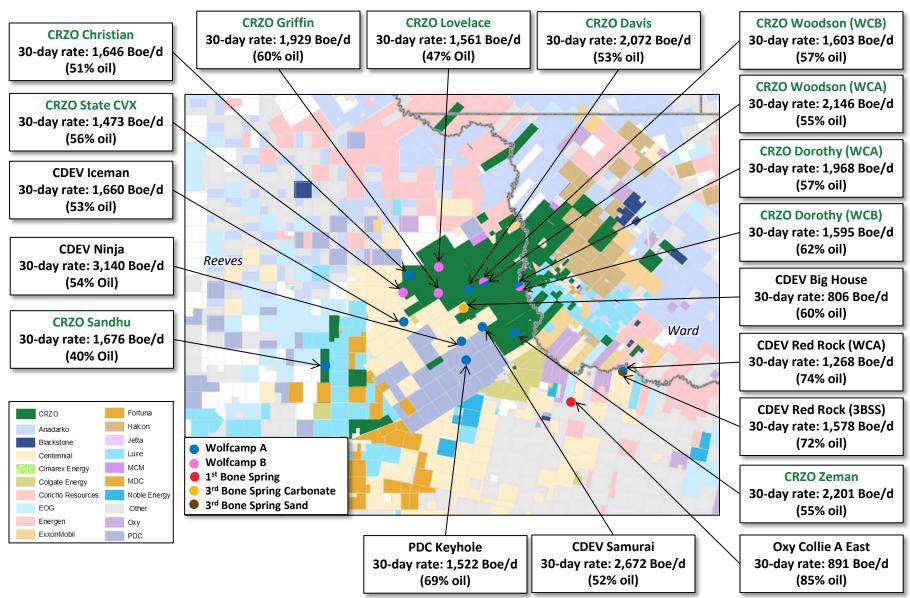
<sup>(2)</sup> Total well cost includes ~\$200K for allocated infrastructure.

## Successful Wells in Multiple Wolfcamp Horizons



## **Delaware Basin - Phantom Area**

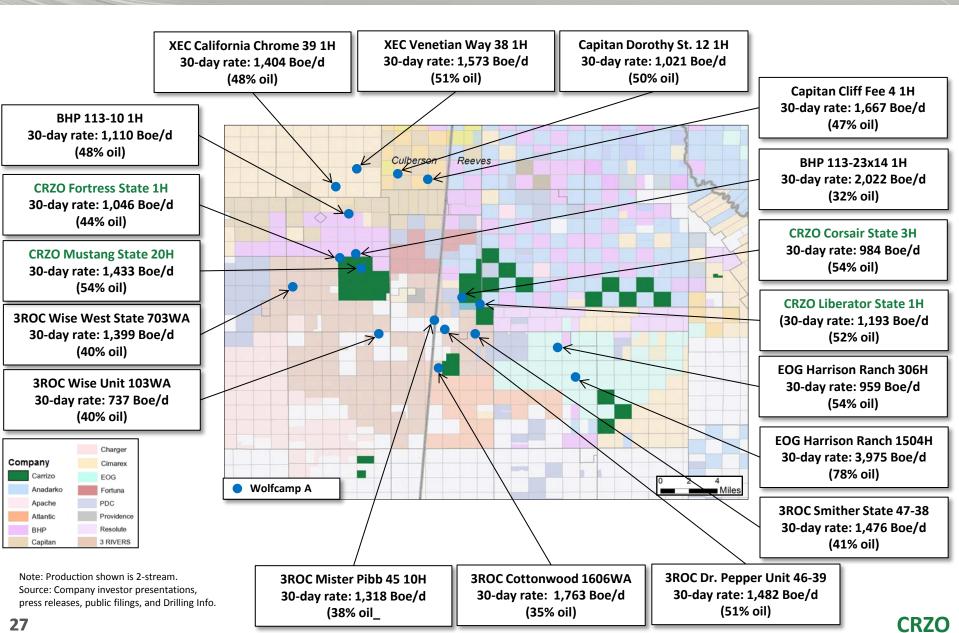
## Location, Location, Location



Note: Production shown is 2-stream.

## **Delaware Basin - Ford West Area**

## Strong Well Results Along the Culberson/Reeves Border

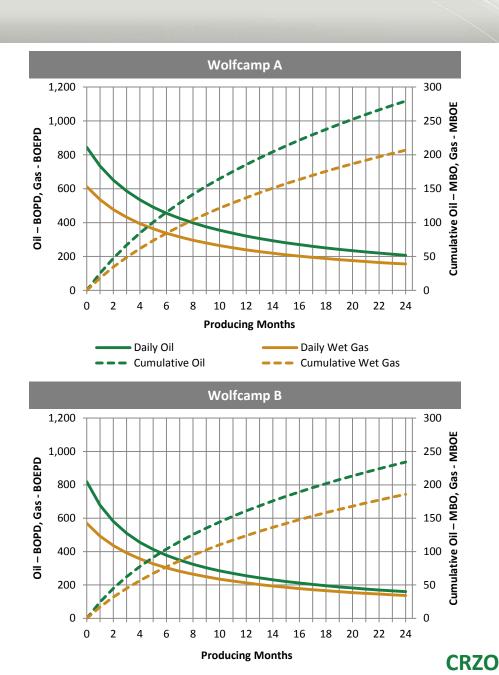


## **Delaware Basin - Phantom Area**

## Well Economics Summary

Туре С	urve		Wolfcamp A	Wolfcamp B
Total V	Vell Cost		\$9.5 MM	\$9.5 MM
Frac St	ages		42	42
Lateral	Length		7,000 ft.	7,000 ft.
		Gross	1,648 Mboe	1,461 Mboe
EUR		Oil Only	833 Mbo	649 Mbo
		Net	1,236 Mboe	1,096 Mboe
F&D Co	ost		\$7.65 / Boe	\$8.62 / Boe
	¢c0 0:1	IRR	93%	62%
	\$60 Oil	NPV	\$13.4 MM	\$9.2MM
IRR	ĆEE OIL	IRR	75%	49%
<b>NPV</b> (1)	\$55 Oil	NPV	\$11.4 MM	\$7.6 MM
	IRR		59%	38%
	\$50 Oil		\$9.4 MM	\$5.9 MM
NYMEX	( NPV10 Bro	eakeven	\$26.50	\$31.50

Economics are based on NYMEX prices and include \$3.00/Mcf gas price, \$2.00/Bbl deduct for oil, \$0.50/Mcf deduct for gas, NGL pricing 35% of oil price.



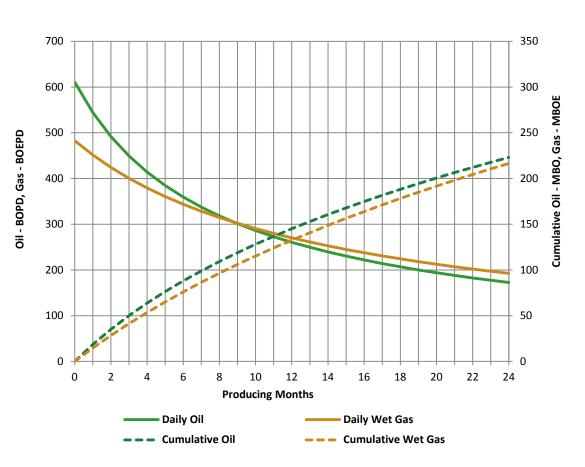
<sup>(2)</sup> Total well cost includes ~\$450K for allocated infrastructure.

## **Delaware Basin - Liberator Area**

## Well Economics Summary

Туре С	Curve		Wolfcamp A
Total \	Well Cost		\$9.1 MM
Frac St	tages		42
Latera	l Length		7,000 ft.
		Gross	1,684 Mboe
EUR		701 Mbo	
		1,263 Mboe	
F&D C	ost		\$7.21 / Boe
	\$60 Oil	IRR	52%
	\$60 OII	NPV10	\$8.9 MM
IRR	\$55 Oil	IRR	42%
NPV <sup>(1)</sup>	, 355 OII	NPV10	\$7.2 MM
	¢E0 O:I	IRR	33%
\$50 Oil		NPV10	\$5.5 MM
NYMEX NPV10 Breakeven			\$36.50

Economics based on NYMEX prices and include \$3.00/Mcf gas price, \$2.00/Bbl deduct for oil, \$0.50/Mcf deduct for gas, NGL pricing 35% of oil price.



<sup>(2)</sup> Total well cost includes ~\$450K for allocated infrastructure.

## **Social Responsibility at Carrizo**

## Striving to be a Good Corporate Citizen

Responsibility in our Communities



#### >\$190 MM

paid to fund education, safety, and infrastructure projects for local communities since 2011

#### >\$7 MM

donated through Carrizo's Corporate Giving community program since 2011

Responsibility as an Employer



>1,200

hours of onsite training provided to employees since 2017

>\$160,000

in donations and employee assistance for Hurricane Harvey recovery efforts in 2017

Responsibility for the Environment



8%

reduction in emissions in 2017 despite production growth of more than 27%

>1,200

Truckloads per day removed from roads through Carrizo's Active Truck Reduction Program